WHAT IS CLAIMED IS:

1. An epoxy resin composition for semiconductor encapsulation, comprising the following components (A) to (F):

(A) an epoxy resin;

(B) a phenol resin;

(C) a curing accelerator;

(D) an inorganic filler;

(E) a hydrotalcite compound; and

(F) a carboxyl group-containing wax having an acid value of 10 to 100 mg KOH/g.

2. The epoxy resin composition for semiconductor encapsulation according to claim 1, wherein the epoxy resin as the component (A) is an epoxy resin having a biphenyl group.

3. The epoxy resin composition for semiconductor encapsulation according to claim 1 or 2, wherein the hydrotalcite compound as the component (E) is a compound represented by the following general formula (1):

$$[L^{2+}_{1-x}Q^{3+}_{x}(OH)_2]^{x+}[(A^{n-})_{x/n}\cdot mH_2O]^{x-} \quad (1)$$

in which L is a divalent metal ion, Q is a trivalent metal ion, A^{n-} is an n-valent anion, x satisfies $0.2 \leq x \leq 0.33$, and m satisfies $0 \leq m \leq 3.5$.

4. The epoxy resin composition for semiconductor encapsulation according to any one of claims 1 to 3, wherein the wax as the component (F) is a mixture of oxidized polyethylene and a long-chain aliphatic acid.

5. The epoxy resin composition for semiconductor encapsulation according to any one of claims 1 to 4, wherein the component (E) is contained in an amount of from 0.02 to 2.0% by weight of the whole of the epoxy resin composition.

6. The epoxy resin composition for semiconductor encapsulation according to any one of claims 1 to 5, wherein the component (F) is contained in an amount of from 0.02 to 2.0% by weight of the whole of the epoxy resin composition.

7. A semiconductor device comprising a semiconductor element encapsulated with the epoxy resin composition for semiconductor encapsulation according to any one of claims 1 to 6.

CLAIMS

1. An epoxy resin composition for semiconductor encapsulation, comprising the following components (A) to (F):

(A) an epoxy resin;

(B) a phenol resin;

(C) a curing accelerator;

(D) an inorganic filler;

(E) a hydrotalcite compound; and

(F) a carboxyl group-containing wax having an acid value of 10 to 100 mg KOH/g;

wherein the wax as the component (F) is a mixture of oxidized polyethylene and a long-chain aliphatic acid and the ratio of the oxidized polyethylene-based wax/the long-chain aliphatic acid is 1/9 to 9/1.

2. The epoxy resin composition for semiconductor encapsulation according to claim 1, wherein the epoxy resin as the component (A) is an epoxy resin having a biphenyl group.

3. The epoxy resin composition for semiconductor encapsulation according to claim 1 or 2, wherein the hydrotalcite compound as the component (E) is a compound represented by the following general formula (1):

$$[L^{2+}_{1-x}Q^{3+}(OH)_2]^{x+}[(A^{n-})_{x/n}\cdot mH_2O]^{x-} \quad (1)$$

in which L is a divalent metal ion, Q is a trivalent metal ion, An· is an n-valent anion, x satisfies $0.2 \leq x \leq 0.33$, and m satisfies $0 \leq m \leq 3.5$.

4. The epoxy resin composition for semiconductor encapsulation according to any one of claims 1 to 3, wherein the component (E) is contained in an amount of from 0.02 to 2.0% by weight of the whole of the epoxy resin composition.

5. The epoxy resin composition for semiconductor encapsulation according to any one of claims 1 to 4, wherein the component (F) is contained in an amount of from 0.02 to 2.0% by weight of the whole of the epoxy resin composition.

6. A semiconductor device comprising a semiconductor element encapsulated with the epoxy resin composition for semiconductor encapsulation according to any one of claims 1 to 5.

7. The epoxy resin composition for semiconductor encapsulation according to any one of claims 1 to 5, wherein the long chain aliphatic acid is at least one selected from the group consisting of hexadecanoic acid, heptadecanoic acid, octadecanoic acid, eicosanoic acid, docosanoic acid, tetracosanoic acid, hexacosanoic acid, heptacosanoic acid, octacosanoic acid, triacontanoic acid, dotriacontanoic acid, tritriacontanoic acid, tetratriacontanoic acid and pentatriacontanoic acid.